

**SYSTEM AND METHOD FOR PRODUCING AN ASSEMBLY BY
DIRECTLY IMPLEMENTING THREE-DIMENSIONAL
COMPUTER-AIDED DESIGN COMPONENT DEFINITIONS**

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ABSTRACT OF THE DISCLOSURE

A system for producing an assembly comprising at least one component includes at least one 3D metrology system, a workstation processing element, numerical control apparatus and a flexible work cell. The metrology system maps the components for use by the workstation processing element, which electronically
10 displays three-dimensional authority models representative of the components. The workstation processing element compares the as-built models to an electronic display of three-dimensional authority models of the components, and alters a position of at least one of the at least one actual model and the at least one authority model. The workstation processing element then commands the numerical control apparatus to
15 perform a machine operation on the components based upon the comparison. As the numerical control apparatus performs the machine operation on the components, the workstation processing element dynamically displays the actual models such that the electronic display of the actual models is automatically and repeatedly updated.

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